

**EOSDIS IV&V  
Monthly Status Report  
For the Period 6/1/97 to 6/30/97  
(Deliverable 0201D.10)**

**July 15, 1997**

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## **1. PERFORMANCE INFORMATION**

### **1.1 Contract Organization Chart**

Exhibit 1-1 illustrates the current organizational structure of the EOSDIS IV&V team. The approximate number of personnel assigned to each technical task during June is also indicated.

### **1.2 Programmatic Information**

#### **a) Key Recent Accomplishments**

- Submitted WV transition status reports to NASA via e-mail on 6/16 and 7/1. Eight personnel are currently committed to WV out of a total goal of 12. Of these eight, seven have already fully transitioned.
- Transitioned Task 8 Lead position to Frank Rockwell (Acting) and Marie Daugherty (Deputy) effective 6/10/97.
- Initiated new team under Task 8 to monitor and report on ECS development progress. New team is called the ECS Assessment / Flash Report Team.
- Provided inputs and addressed issues regarding the Task SOWs currently being developed by NASA for the period 8/1/97 through 9/30/97.
- Continued on-going training of contract personnel. Training in June included a seminar on Tivoli System Administration which was taken on 6/9 - 6/11. Several classes were also taken at Hughes. These included Object Oriented Analysis and Design class (6/16-6/20), C++ class (6/24-6/27), and a Rational Rose demo which showed how Rational could be used to design code using its forward engineering feature. In addition, self-paced tutorials were taken at the Goddard Learning Center in UNIX System for Users and Windows 95.
- Ensured on-time delivery of contract deliverables as indicated in Exhibit 1-2.

#### **b) Planned Activities**

- Determine whether or not IV&V will have a role in the ECS B.0 Demonstration in August.
- Continue WV transition effort, and submit semi-monthly status reports to NASA.

**Exhibit 1-1: Org Chart (Landscape)**

*EOSDIS IV&V Monthly Status Report  
For the Period 6/1/97 to 6/30/97*

Expected Date Due	Dependency	Milestone/Deliverable	Task #	Status*	Comments
6/2/97		EGS I&T Program Test Matrix (Updates)	11	C	Submitted on time.
6/8/97		Monthly Metrics Report	8	C	Submitted on time.
6/8/97		RTM Quantitative Assessment TAM	8	C	Submitted on time as part of Monthly Metrics Report.
6/16/97		Monthly Status Report	2	C	Submitted on time.
6/16/97		EGS V1 Integration Debrief - Flight System	11	C	Submitted on time.
6/17/97		CCR Impact Analysis Forms	8	C	Submitted on time.
6/24/97		ICWG Open Interface Issues Summary Report	8	C	Submitted on time.
7/1/97		TRMM Operational System Engineering Test Summaries (TAM entitled "Test Report for TSS/TSDIS Acceptance Testing, Mission SIM#3, and EGS I&T V1-TST-03")	11	C	Submitted on time.
7/2/97		ECS Assessment/Flash Report	8	C	Submitted on time.
7/8/97		Monthly Metrics Report	8	IP	
7/8/97	RTM release + 2 weeks	RTM Quantitative Assessment TAM	8	IP	
7/8/97	One week prior to CCB or ICWG meeting	CCR Impact Analysis Forms	8	IP	
7/15/97	At monthly ICWG	ICWG Open Interface Issues Summary Report	8	O	
7/97	As needed	EGS I&T Program Test Packages (Updates)	11	O	
7/97	Monthly	EGS I&T Program Test Matrix (Updates)	11	O	
8/97	RTM release + 4 weeks	RTM Qualitative Assessment TAM	8	O	

\* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

### EXHIBIT 1-2: Status of Milestones/Deliverables

- Support the finalization and processing of Task SOWs for the period 8/1/97 through 9/30/97.
- Continue on-going training of contract personnel. Future training initiatives include X-Runner training for Task 11 personnel, OMT and Rational ROSE training for Task 8 new hires, and Sybase System 11 training for system administration. Also, plan to attend training on OOA/OOD, C++, NCRs/DDTS, and the Evolutionary Build Process at the ECS facility as slots are made available to the IV&V team.

### **1.3 Technical Task Information**

#### **Task # 4: IV&V Infrastructure and Tool Development**

##### **a) Task Accomplishments**

- Updated the Integrated Support Environment (ISE) Sybase database with ECS 5/23/97 and 6/23/97 RTM baseline information. Produced change impact analysis reports reflecting deleted requirements with allocations to TMDB packages.
- Developed prototype MS Access to MS Word report builder to produce procedure step tables in the correct format directly from TMDB database. This productivity tool will eliminate all the hand formatting that is currently required.
- Gathered feedback on discrepancy reports and bi-directional trace reports generated against the Integrated Requirements Database (IRDB). Modified reports accordingly. Also posted IRDB reports on the IRDB Homepage which is accessible via the EOSDIS IV&V homepage. Contacted CSC for potential posting to the ERDET homepage and to determine status of ERDET activities since there was no ERDET meeting in June.
- Completed assessment of the Visual Café Pro Java development environment from Symantec. Plan to initiate procurement so that Java Applets can be used to interface with the IRDB. The use of Java Applets will provide GSFC personnel access to the IRDB through a Macintosh WWW browser.
- Began developing a WWW-based query interface to the newly created IRDB. Planning prototype demonstration for late July or early August.
- Imported new ECS RTM baseline that was received from HITS via FTP on 6/23/97.
- Provided Project Issue Tracking System (PITS), Automated Requirements Database (ARDB), and RTM tool training to new WV hires and transfers.
- Continued M&O activities for the Project Issue Tracking System (PITS), Automated Requirements Database (ARDB), Test Management Database (TMDB), and all contract homepages.

##### **b) Issues/Concerns**

- None.

**c) Subcontractor Performance**

- EWA's performance has been very good. Specific activities included maintaining and operating the Test Management Database (TMDB).

**d) Planned Activities**

- Continue development of a WWW interface to the IRDB. Accept requests for additional IRDB reports.
- Demonstrate WWW IRDB capabilities in late July or early August.
- Complete testing newly incorporated TMDB modifications and release TMDB version 5.0. Modifications requested include configuration, TST, Release B, reporting, and metrics enhancements.
- Support transfer of Rational Rose capabilities to Fairmont, WV.
- Support configuration and utilization of the McCabe tools for review of ECS code.
- Continue to reconfigure and maintain IV&V databases, homepages, and tools as necessary to support ECS Release B IV&V analysis and I&T activities.

**Task # 8: Development Life Cycle Analysis**

**a) Task Accomplishments**

***Planning and Rapid Analysis Team:***

- Started quantitative analysis of the 6/23/97 RTM repository.
- Supporting Glenn Iona and ESDIS teams in mapping Level 3 RBRs to ECS builds (RCC, RC11, JIT1, JIT2).
- Assisted ECS and ESDIS project personnel with the development of an Access database used to track RCC, RC11, JIT1 and JIT2 requirements allocations.
- Reviewing ECS source code from Hughes. A review of a small sample of the code within Ingest revealed that poor comments may adversely affect the ability of Rational to build a meaningful data dictionary. Code review efforts are ongoing.
- Developed spreadsheets categorizing SLOC by New, Reused, Modified, etc. Discovered that approximately 500K lines of code are duplicates, dead, or unused in the 5/29/97 Release B.0 code drop provided by the ECS team.



***System and Interfaces Analysis Team:***

- Began work on qualitative assessment of 6/23/97 version of RTM requirement mappings. The 6/23/97 RTM requirements baseline qualitative analysis will need a complete re-analysis instead of just a "delta" analysis. This is needed because the RTM change history is not being maintained. The analysis will take six weeks and will not include the FOS portions of the baseline.
- Developed new scripts for extracting information from RTM requirements baselines. The new scripts allow the queries to be executed in a batch mode and reduce labor and opportunities for error in the interactive execution of the scripts.
- Prepared summary reports and metrics for the following deliverables:
  - 6/8/97 IV&V Monthly Metrics Report (TAM-08-028)
  - 6/24/97 PITS-ICWG Issues Summary Report
- Reviewed ECS-DAS ICD and generated TAM-08-027 to document results.
- Reviewed Landsat 7 Level 1 MSRD Baseline Updates (CCR 423-10-36-002) and submitted informal comments to ESDIS and ECS.
- CCRs reviewed in June include the following:

CCR #	Title
505-42-01-009	B/L the SDPF-TRMM Customers ICD
505-01-30-015	Level 2 Changes for TRMM, SeaWinds, RadarAlt, and EPGS support
505-01-41-150	Consolidate Snow and Ice DAAC Ops Staff change to the ECS SOW
505-01-41-151	Consolidate Physical Oceanography DAAC Ops Staff change to ECS SOW
505-01-41-152	Additional IST Users (F&PRS, ECS-SDVF ICD)
505-42-01-008	Update to ECS AM-1 FDD/ECS ICD
505-41-36-004	Revise the ECS-NOAA ICD
505-41-19-004	Revise the ECS-NOAA IRD
423-41-35-001	Baseline the TSS-TSDIS ICD
505-41-17-003	Add NISN names to ECS-NSI IRD
505-41-31-002	Add NISN names to ECS-NSI ICD
505-41-21-002	Revision to ECS-NISS IRD
423-42-01-010	Baseline the S-band AM-1 EPGN WPS RF ICD
505-01-35-070	Replace Kerberos ftp with ftp (EDOS-EGS, EBnet ICDs)
505-01-35-071	Remove inconsistencies between EDOS-EGS IRD and ICD
505-41-34-002	Incorporate ERSDAC's comments to ECS-ASTER ICD
505-41-11-004	User authentication I/F and implementation issues (ECS-V0 IRD)
505-41-38-003	Eliminate Kerberos for EOC external interface (SAS ICD)
505-01-41-154	Level 2/3 update involving PM-1, EPGN, and NOAA
505-01-41-155	Delete SAGE III processing from the ECS requirement (SOW)

***System Security Analysis Team:***

- Developed schedule for SAFEsuite tool test and evaluation period at NasCom Lab (delayed due to late delivery of tool).
- Met with I&T personnel to determine which specific components of TRMM should be tested for security vulnerabilities. It was determined that the TSS side of the TSS/TSDIS Gateway Interface should be tested.
- Received delivery of SAFEsuite tool; however, LINUX operating system was not installed. Returned laptop to vendor for installation.

***Test Analysis and Witnessing Team:***

- Analyzed SV/AT procedures to identify redundancy and to assist in streamlining ECS testing activities.
- Continued analysis of August Demo functionality with respect to DSWG requirements for B.0' and B.0 releases.

***ECS Assessment / Flash Report Team:***

- Started work on the first draft of the ECS Assessment/Flash Report. This document will provide a focused report which summarizes IV&V evaluations, findings, potential impacts and recommendations on the ECS program to ESDIS. The first draft is due 7/2/97.

**b) Issues/Concerns**

- The lack of access to a current ECS Release B design continues to constrain level of design analysis achievable by IV&V.
- There has been no IV&V involvement in ECS walkthroughs since May. There is no current schedule for these activities.

**c) Subcontractor Performance**

- CTA is leading the SIA Team. Their technical staff also supports other integrated analysis teams within Task 8. Their performance has been very good.
- SES is leading the TAW Team. Their technical staff also supports other integrated analysis teams within Task 8. Their performance has been very good.

**d) Planned Activities**

***Planning and Rapid Analysis Team:***

- Complete quantitative analysis of 6/23/97 release of RTM; prepare and submit the quantitative analysis/monthly metrics report.
- Continue examining ECS SLOC information to predict downstream effects of code growth.
- Continue to examine reverse-engineering feature of Rational Rose and Pre-release B testbed designs in ECS design repository.

***System and Interfaces Analysis Team:***

- Support ongoing review of CCRs.
- Continue data entry into PITS ICWG repository, and present at next ICWG status meeting scheduled for 7/15.
- Continue support of ECS ICD issue work-off.
- Continue INGEST source code assessment.
- Complete analysis of the 6/23/97 RTM requirements baseline and begin preparing qualitative analysis TAM.
- Start analysis of July RTM requirements baseline.

***System Security Analysis Team:***

- Receive SAFEsuite tool from vendor and configure tool for network system testing.
- Begin a series of scan tests to benchmark SAFEsuite and to gain an in-depth understanding of tool capabilities and output.
- Draft strategy/methodology for conducting system vulnerability tests at DAACs.
- Participate in EOSDIS Security Working Group (ESWG) meeting scheduled for 7/14/97.
- Support any briefings and demonstrations associated with upcoming SAFEsuite tests.

***Test Analysis and Witnessing Team:***

- Continue supporting Release B.0 system verification procedures walkthroughs to include reviewing test procedures, analyzing requirements traceability, and providing comments and recommendations to ESDIS and ECS test team.

***ECS Assessment / Flash Report Team:***

- Deliver first draft of the ECS Assessment/Flash Report and review with project representatives.
- Update/Enhance Flash Report as needed and begin work on next document delivery.

**Task # 11: EOS Ground System Integration and Test**

**a) Task Accomplishments**

***EGS Version 1 Test Planning:***

- Completed joint NYMA/GSFC DAAC TRMM TSS - TSDIS testing.

***Integration Schedule Tracking and Analysis:***

- Revised EGS I&T test schedule based on network activities plan.
- Completed ECT2 test plan and schedule.

***Integration Test Tool Definition and Plans:***

- Collected monthly test package metrics.
- Revised Test Metrics program in accordance with June milestone date.
- Captured test program metrics including test execution results.

***EGS Confidence Test Planning:***

- Scheduled all DAAC telecons as required.
- Completed LaRC DAAC telecon and planning meeting.
- Coordinated CSC test data resource utilization.
- Delivered updated EGS I&T Program Test Matrix as required.
- Continued Release B0/B1 test package allocation analysis.
- Participated in ESDIS Test Data Set working group and EDOS TOG.
- Continued Landsat 7 MRTT coordination; revised Landsat 7 EGS I&T test plan.

- Completed 60 day maturity milestones for V2 FOS EGS I&T Confidence Test Packages (CTPs).
- Completed first draft of EGS 10 End-to-End Science Ops test plan.
- Completed first draft of EGS 11 EGS System Level Performance test plan.

***EGS Version 1 Integration and Test:***

- Submitted EGS test briefing letter for Version 1 - Flight System.
- Completed joint TRMM SIM 3 test execution. Final report submitted on 7/1/97 as TAM entitled, "Test Report for TSS/TSDIS Acceptance Testing, Mission SIM#3, and EGS I&T V1-TST-03."
- Supported FOS DRB, ETS DRB, EDOS with Discrepancy Reports (DRs).
- Completed ECT2 Test Execution.

**b) Issues/Concerns**

- We need to continue developing relationships with our joint test partners. This is especially important when trying to schedule resources.

**c) Subcontractor Performance**

- Subcontractor performance has been very good.

**d) Planned Activities**

- Deliver updated EGS I&T Confidence Test Packages.
- Complete DAAC telecon planning meetings.
- Define EGS 3 V2 Baseline Certification Test (first draft).
- Continue to plan EGS I&T Science/Systems IPT test package targets. Reschedule based on DAAC inputs.
- Continue to plan EGS I&T test data plan target dates, working with EGS I&T Test Data Coordinator.
- Continue Landsat 7, AM-1, Sage III Mission joint test planning.
- Complete monthly metrics and test matrix update.

## **2. FINANCIAL/CONTRACTUAL INFORMATION**

**This Section  
Has Been Removed  
Due to Proprietary Content.**